



Office de la Propriété  
Intellectuelle  
du Canada

Un organisme  
d'Industrie Canada

Canadian  
Intellectual Property  
Office

An agency of  
Industry Canada

CA 2180714 E 2002/03/19

(11)(21)(64) **2 180 714**

(12) **BREVET CANADIEN REDÉLIVRÉ**  
**CANADIAN REISSUED PATENT**

(13) E

(22) Date de dépôt/Filing Date: 1996/07/08

(41) Mise à la disp. pub./Open to Public Insp.: 1997/05/08

(45) Date de délivrance/Issue Date: 1997/12/16

(48) Date de correction/Correction Date: 2002/03/19

(30) Priorité/Priority: 1995/11/07 (08/554,854) US

(51) Cl.Int.<sup>6</sup>/Int.Cl.<sup>6</sup> G02C 9/00

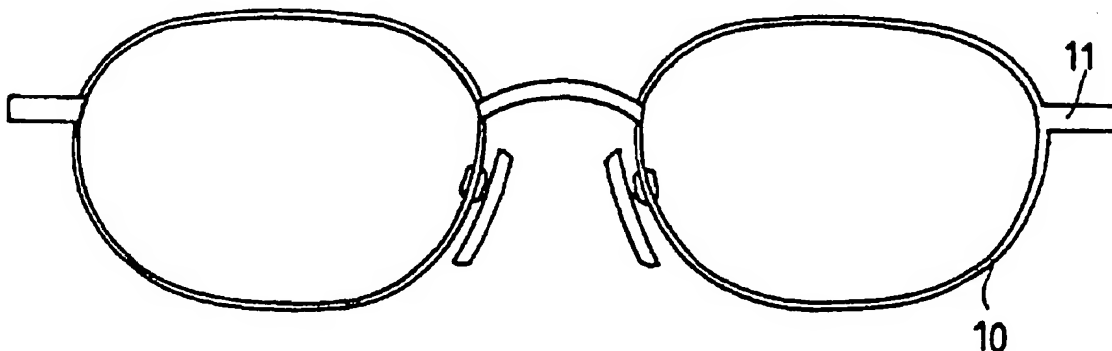
(72) Inventeur/Inventor:  
Chao, Richard, TW

(73) Propriétaire/Owner:  
CONTOUR OPTIK INC., TW

(74) Agent: BULL, HOUSSEY & TUPPER

(54) Titre : LENTILLES AUXILIAIRES POUR LUNETTES

(54) Title: AUXILIARY LENSES FOR EYEGLASSES



(57) Abrégé/Abstract:

An eyeglass device includes a primary and an auxiliary spectacle frames for supporting lenses. The primary spectacle frame includes two legs pivotally coupled to two side extensions and includes two magnetic members secured in the rear and side portions. The auxiliary spectacle frame includes two legs engaged on the primary spectacle frame and each having a magnetic member for engaging with the magnetic members of the primary spectacle frame so as to secure the spectacle frames together and so as to prevent the auxiliary spectacle frame from moving downward relative to the primary spectacle frame.

2180714

## ABSTRACT OF THE DISCLOSURE

An eyeglass device includes a primary and an auxiliary spectacle frames for supporting lenses. The primary spectacle frame includes two legs pivotally coupled to two side extensions and includes two magnetic members secured in the rear and side portions. The auxiliary spectacle frame includes two legs engaged on the primary spectacle frame and each having a magnetic member for engaging with the magnetic members of the primary spectacle frame so as to secure the spectacle frames together and so as to prevent the auxiliary spectacle frame from moving downward relative to the primary spectacle frame.

2180714

- 1 -

**TITLE: AUXILIARY LENSES FOR EYEGLASSES****BACKGROUND OF THE INVENTION****1. Field of the Invention**

The present invention relates to auxiliary lenses,  
05 and more particularly to auxiliary lenses for  
eyeglasses.

**2. Description of the Prior Art**

A typical spectacle frame having an attachable  
one-piece slide-on rim is disclosed in US Patent No.  
10 4,070,103 to Meeker. In Meeker, a spectacle frame  
includes a magnetic material secured to the peripheral  
portion thereof for facilitating attachment of the  
auxiliary lens rim cover to the spectacle frame. The  
lens rim cover also includes a magnetic strip for  
15 engaging with the magnetic material of the spectacle  
frame.

Another typical eyeglasses are disclosed in US  
Patent No. 5,416,537 to Sadler and comprise first  
magnetic members secured to the temporal portions of  
20 the frames and second magnetic members secured to the  
corresponding temporal portions of the auxiliary  
lenses.

In both of the eyeglasses, the auxiliary lenses  
are simply attached to the frames by magnetic materials  
25 and have no supporting members for preventing the  
auxiliary lenses from moving downward relative to the  
frames such that the auxiliary lenses may easily move

2180714

- 2 -

downward relative to the frames and may be easily disengaged from the frames when the users conduct jogging or jumping exercises. In addition, the magnetic materials are embedded in the frames of the primary  
05 lenses and of the auxiliary lenses such that the frames should be excavated with four or more cavities for engaging with the magnetic members and such that the strength of the frames is greatly decreased.

The present invention has arisen to mitigate  
10 and/or obviate the afore-described disadvantages of the conventional spectacle frames.

#### SUMMARY OF THE INVENTION

The primary objective of the present invention is to provide auxiliary lenses which may be stably secured  
15 and supported on the frames.

In accordance with one aspect of the invention, there is provided an eyeglass device comprising a primary spectacle frame for supporting primary lenses therein, the primary spectacle frame including two side  
20 portions each having an extension extended therefrom for pivotally coupling a leg means thereto, the primary spectacle frame including two rear and side portions each having a projection secured thereto, the primary spectacle frame including an upper portion, a pair of  
25 first magnetic members secured in the projections respectively, an auxiliary spectacle frame for supporting auxiliary lenses therein, the auxiliary

2180714

- 3 -

spectacle frame including two side portions each having an arm extended therefrom for extending over and for engaging with the upper portion of the primary spectacle frame, and a pair of second magnetic members secured to the arms respectively for engaging with the first magnetic members of the primary spectacle frame so as to secure the auxiliary spectacle frame to the primary spectacle frame. The arms are engaged with and supported on the upper portion of the primary spectacle frame so as to allow the auxiliary spectacle frame to be stably supported on the primary spectacle frame and so as to prevent the auxiliary spectacle frame from moving downward relative to and so as to prevent the auxiliary spectacle frame from being disengaged from the primary spectacle frame.

The projections and the first magnetic members are arranged lower than the upper portion of the primary spectacle frame, the second magnetic members are extended downward toward the projections for hooking on the primary spectacle frame so as to further secure the auxiliary spectacle frame to the primary spectacle frame. The auxiliary spectacle frame may be prevented from disengaging from the primary spectacle frame.

Further objectives and advantages of the present invention will become apparent from a careful reading of a detailed description provided hereinbelow, with appropriate reference to accompanying drawings.

2180714

- 4 -

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIGS. 1 and 2 are front views of a spectacle frame and of auxiliary lenses in accordance with the present invention respectively;

05        FIGS. 3 and 4 are top views of the spectacle frame and of the auxiliary lenses respectively;

FIG. 5 is a front view of the spectacle frame and the auxiliary lenses combination;

FIG. 6 is a top view of the spectacle frame and  
10    the auxiliary lenses combination; and

FIG. 7 is a cross sectional view taken along lines 7-7 of FIG. 6.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Referring to the drawings, and initially to FIGS.  
15    1 to 4, an eyeglass device in accordance with the present invention comprises a primary spectacle frame 10 for supporting primary lenses therein. The primary spectacle frame 10 includes two side portions each having an extension 11 extended rearward therefrom for  
20    pivotally coupling a leg 12 thereto. The primary spectacle frame 10 includes two projections 13 secured to the rear and side portions thereof for supporting magnetic members 14 therein. An auxiliary spectacle  
25    frame 20 is provided for supporting the auxiliary lenses therein and includes two side portions each having an arm 21 extended rearward therefrom for extending over and for engaging with the upper portion

2180714

- 5 -

of the primary spectacle frame 10 (FIGS. 5 and 6). The auxiliary spectacle frame 20 also includes two magnetic members 22 secured to the arms 21 thereof for engaging with the magnetic members 14 of the primary spectacle frame 10 such that the auxiliary spectacle frame 20 may be stably supported on the primary spectacle frame 10, best shown in FIGS. 5 and 6.

It is to be noted that the arms 21 are engaged with and are supported on the upper portion of the primary spectacle frame 10 such that the auxiliary spectacle frame 20 may be stably supported and secured to the primary spectacle frame 10. The auxiliary spectacle frame 20 will not move downward relative to the primary spectacle frame and will not be easily disengaged from the primary spectacle frame when the users conduct jogging or jumping exercises.

It is further to be noted that the projections 13 and the magnetic members 14 are secured to the primary spectacle frame 10 and the magnetic members 22 are secured in the arms 21. The magnetic members 14, 22 are not embedded in the frames 10, 20 such that the frames 10, 20 are not required to be formed with cavities therein and such that the strength of the frames 10, 20 will not be decreased.

Referring next to FIG. 7, it is preferable that the projections 13 and the magnetic members 14 are located slightly lower than the upper portion of the

primary spectacle frame 10; and the end portions of the arms 21 and/or the magnetic members 22 are slightly extended downward toward the projections 13 such that the arms 21 and the magnetic members 22 may hook on the primary spectacle frame 10 and such that the auxiliary spectacle frame 20 may further be stably supported and secured to the primary spectacle frame 10. In one embodiment, as shown in FIG. 7, magnetic members 14 and 22 are not in contact with each other; magnetic members 14 and 22 lie in a plane that is substantially horizontal when the eyeglass device is worn and are engaged with, but not supported on, each other. Instead, the arm 21 securing the magnetic member 22 is supported on an upper side portion of the primary spectacle frame 10. As shown in FIG. 7, the upper side portion can be an upper part of the side portion securing the projection 13.

Accordingly, the eyeglass device in accordance with present invention includes an auxiliary spectacle frame that may be stably secured to the primary spectacle frame and will not move downward relative to the primary spectacle frame and will not be easily disengaged from the primary spectacle frame when the users conduct jogging or jumping exercises. In addition, the magnetic members are not embedded in the frames such that the strength of the frames will not be decreased.

Although this invention has been described with a certain degree of particularity, it is to be understood that the present disclosure has been made by way of example only and that numerous changes in the detailed construction and the combination and arrangement of parts may be restored to without departing from the spirit and scope of the invention as hereinafter claimed.



1. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein, said primary spectacle frame including two side portions each having an extension extended therefrom for pivotally coupling a leg means thereto, said primary spectacle frame including two rear and side portions each having a projection secured thereto, said primary spectacle frame including an upper side portion,

a pair of first magnetic members secured in said projections respectively,

an auxiliary spectacle frame for supporting auxiliary lenses therein, said auxiliary spectacle frame including two side portions each having an arm extended therefrom for extending over and for engaging with said upper side portion of said primary spectacle frame, and

a pair of second magnetic members secured to said arms respectively for engaging with said first magnetic members of said primary spectacle frame so as to secure said auxiliary spectacle frame to said primary spectacle frame,

said arms being engaged with and supported on said upper side portion of said primary spectacle frame so as to allow said auxiliary spectacle frame to be stably supported on said primary spectacle frame and so as to prevent said auxiliary spectacle frame from moving downward relative to said primary spectacle frame and so as to prevent said auxiliary spectacle frame from being disengaged from said primary spectacle frame.

2. An eyeglass device according to Claim 1, wherein said projections and said first magnetic members are arranged lower than said upper side portion of said primary spectacle frame, said second magnetic members are extended downward toward said

---

projections for hooking on said primary spectacle frame so as to further secure said auxiliary spectacle frame to said primary spectacle frame.

3. An eyeglass device as recited in Claim 1 wherein the first and the second magnetic members are magnets.

4. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein, said primary spectacle frame including two side portions each having an extension extended therefrom for pivotally coupling a leg means thereto, said primary spectacle frame including two rear and side portions, said primary spectacle frame including an upper side portion,

a pair of first magnetic members each having a respective support to secure said first magnetic members to said side portions,

an auxiliary spectacle frame for supporting auxiliary lenses therein, said auxiliary spectacle frame including two side portions each having an arm extended therefrom for extending over and for engaging with said upper side portion of said primary spectacle frame, and

a pair of second magnetic members secured to said arms respectively for engaging with said first magnetic members of said primary spectacle frame so as to secure said auxiliary spectacle frame to said primary spectacle frame,

said arms being engaged with and supported on said upper side portion of said primary spectacle frame so as to allow said auxiliary spectacle frame to be stably supported on said primary spectacle frame and so as to prevent said auxiliary spectacle frame from moving downward relative to said primary spectacle frame and so as to

prevent said auxiliary spectacle frame from being disengaged from said primary spectacle frame.

5. An eyeglass device as recited in Claim 4 wherein at least an end portion of one auxiliary side portion extends downward toward one of the side portions of the primary spectacle frame for hooking on the primary spectacle frame such that the auxiliary spectacle frame is further stably supported and secured to the primary spectacle frame.

6. An eyeglass device comprising:  
a primary spectacle frame for supporting primary lenses therein;  
the primary spectacle frame including two side portions having extensions extended therefrom for pivotally coupling a leg thereto; and  
the primary spectacle frame including two first magnetic members respectively having a horizontal surface and being located by a support provided at a respective one of the side portions of the primary spectacle frame; and  
an auxiliary spectacle frame for supporting auxiliary lenses therein, and for disposition in front of the primary spectacle frame, the auxiliary spectacle frame including two auxiliary side portions to extend over said side portions, wherein the auxiliary spectacle frame further includes a pair of second magnetic members each secured to a respective one of the auxiliary side portions and having a horizontal surface for co-operating with a corresponding horizontal surface of one of the first magnetic members so as to secure the auxiliary spectacle frame to the primary spectacle frame.

---

7. An eyeglass device as recited in Claim 6 wherein the second magnetic members are magnets.

8. An eyeglass device as recited in Claim 6 wherein the first magnetic members are magnets.

9. An eyeglass device as recited in Claim 6 wherein the first and the second magnetic members are magnets.

10. An eyeglass device as recited in Claim 6 wherein the auxiliary side portions of said auxiliary frame are respectively supported on a corresponding extension of said side portions of said primary frame and the horizontal surface of said first magnetic members are maintained in spaced relationship to corresponding horizontal surfaces of said second magnetic members.

11. An eyeglass device as recited in Claim 9 wherein the auxiliary side portions are respectively supported on a corresponding extension of said side portions of said primary frame and the horizontal surface of said first magnetic members are maintained in spaced relationship to corresponding horizontal surfaces of said second magnetic members.

12. An eyeglass device comprising:  
a primary spectacle frame having two side portions each including an extension extending therefrom, each of said extensions having a front side, a rear side and a support to secure a first magnetic member to said rear side of said extension,  
an auxiliary spectacle frame including two side portions each having an arm

---

extended therefrom for extending over said primary spectacle frame and beyond said rear side, each of said arms having a second magnetic member secured thereto, and

said arms and said first and second magnetic members cooperating to stably support said auxiliary spectacle frame on said primary spectacle frame and inhibit removal of said auxiliary frame from said primary frame.

13. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein, said primary spectacle frame including two side portions each having an extension extended therefrom for pivotally coupling a leg, each of said extensions also including an outer side, an inner side, and a top side with a projection secured to said inner side, each of said projections respectively securing a first magnetic member to present a horizontal surface, and

an auxiliary spectacle frame for supporting auxiliary lenses therein, said auxiliary spectacle frame including two side portions each having an arm extended therefrom, said auxiliary spectacle frame further including a pair of second magnetic members secured to said arms respectively for engaging said horizontal surface of said first magnetic members of said primary spectacle, each of said arms adapted to extend over one of said top sides.

14. An eyeglass device comprising:

a primary spectacle frame having two side portions each having an extension extending therefrom, each of said extensions having a front side and a rear side with a first magnetic member secured to said rear side by a support, and

an auxiliary spectacle frame including two side portions, each of said side portions having an arm extended therefrom for extending over and beyond said rear side,

---

said arms containing corresponding second magnetic members, said arms and said first and second magnetic members supporting said auxiliary spectacle frame on said primary spectacle frame so as to prevent said auxiliary frame from moving downward relative to said primary spectacle frame and so as to prevent said auxiliary frame from being disengaged from said primary spectacle frame.

15. An eyeglass device comprising:

a primary spectacle frame having two side portions each with an extension, each of said extensions extending laterally away from one another and rearwardly of said frame, each of said extensions having a top side, a front side and a rear side with a first magnetic member secured by a support to said rear side, and

an auxiliary spectacle frame including two side portions each having an arm extending from said front side over said top side, said arms containing corresponding second magnetic members, said arms and said first and second magnetic members supporting said auxiliary spectacle frame on said primary spectacle frame.

16. An eyeglass device comprising:

a primary spectacle frame having two side portions each having an extension extending rearwardly therefrom having a top side and a rear side with a support secured thereto,

a first magnetic member located in each of said supports and

an auxiliary spectacle frame including two arms for extending over a corresponding top side of said extensions, said arms each having second magnetic members for cooperation with said first magnetic members and downwardly

---

extended end portions for hooking said auxiliary spectacle frame to said primary spectacle frame, said arms and said first and second magnetic members supporting said auxiliary spectacle frame on said primary spectacle frame.

17. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein having two side portions each having extensions, said extensions each having a top side and a projection attached to a rear side thereof, each of said projections securing a first magnetic member, and

an auxiliary spectacle frame including two arms for extending over and engaging a corresponding top side of said side portion extensions, said arms respectively containing second magnetic members and downwardly extended end portions, at least said arms and said first and second magnetic members supporting said auxiliary spectacle frame on said primary spectacle frame.

18. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein having two side portions each with an extension having a top side and a rear side with a first magnetic member secured in a support to said rear side, and

an auxiliary spectacle frame including two arms for extending over and engaging a corresponding top side of said extensions, said arms respectively containing downwardly extended second magnetic members for hooking said auxiliary spectacle frame to said primary spectacle frame, said arms and said first and second magnetic members cooperating to support said auxiliary spectacle frame on said primary spectacle frame.

---

19. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein having a pair of side portions each with an extension for pivotal coupling to a leg, each of said extensions having a front side, a rear side, a top side and a support attached to said rear side, each of said supports securing first magnetic members, and

an auxiliary spectacle frame for supporting auxiliary lenses therein and including two side portions, each of said side portions having an arm extended therefrom and adapted to extend from said front side over said top side to beyond said rear side of said extension of said primary spectacle frame, said arms each containing corresponding second magnetic members, said arms locating each of said second magnetic members in an engagement position to engage respective first magnetic members of said primary spectacle frame and inhibit relative vertical movement therebetween.

20. An eyeglass device comprising:

a primary spectacle frame for supporting primary lenses therein and having two side portion extensions extending rearwardly therefrom and having a front side, a rear side, a top side, and a rear end, each of said rear ends being pivotally connected to a leg, each of said extensions of said primary spectacle frame further having a support attached to respective ones of said rear sides, and a pair of first magnetic members each secured in a respective one of said supports, whereby an auxiliary frame having a pair of rearwardly directed arms with magnetic members thereon may be stably secured to said primary frame.

---



21. An eyeglass device according to claim 20 wherein said supports are projections encompassing said first magnetic members.
  22. An eyeglass device according to claim 20 or 21 wherein said magnetic members are magnets.
  23. An eyeglass device according to any one of claims 20 to 22 wherein said magnetic members have a horizontally disposed surface.
  24. An eyeglass according to any one of claims 20 to 23 wherein said supports locate said magnetic members behind said extensions so as not to be visible from the front when in use.
  25. An eyeglass device comprising:
    - an auxiliary spectacle frame for supporting auxiliary lenses therein, said frame including a front side, a rear side, and oppositely positioned side portions, each of said side portions having an arm extended therefrom, each of said arms having a rearwardly directed free end for securing a magnetic member, and a pair of magnetic members respectively secured in the free ends of said arms, said arms and said pair of magnetic members adapted to extend across respective side portions of a primary spectacle frame so that said pair of magnetic members can engage corresponding magnetic members on a primary spectacle frame.
  26. An eyeglass device according to claim 25 wherein said arms maintain said magnetic members with a horizontally disposed face.
-

27. An eyeglass according to claim 25 or 26 wherein said magnetic members are magnets.
28. An eyeglass according to any one of claims 25 to 27 wherein terminal portions of said free ends of said arms extend downwardly to provide a hook for engagement with said primary frame.
29. An eyeglass device according to claim 28 wherein said magnetic member is located at said terminal portion of said arm.
30. An eyeglass according to any one of claims 25 to 27 wherein a said magnetic member is located at a terminal portion of said free ends of each of said arms and extends downwardly to provide a hook for engagement with said primary frame.

31. An eyeglass device comprising:

an auxiliary spectacle frame for supporting auxiliary lenses therein, said frame including a front side, a rear side, and oppositely positioned side portions, each of said side portions having an arm extended therefrom, each of said arms having a rearwardly directed end for securing a magnetic member, a pair of magnetic members respectively located at said ends of said arms, each of said ends having a downwardly extended terminal portion for hooking onto a primary spectacle, said arms and said pair of magnetic members adapted to extend across respective side portions of a primary spectacle frame so that said pair of magnetic members can engage corresponding magnetic members on a primary spectacle frame.

---

32. An eyeglass device, comprising:
- a primary spectacle frame for supporting primary lenses therein;
  - a pair of extensions mounted to said primary spectacle frame at laterally spaced locations and each projecting toward a wearer when the eyeglass device is worn;
  - a first pair of magnetic members, each affixed to a respective one of a pair of supports attached to a rear side of said extensions so as to be concealed by said extensions when said eyeglass is worn, said first pair of magnetic members each having a first surface;
  - an auxiliary spectacle frame for supporting auxiliary lenses therein;
  - a pair of spaced apart arms mounted to said auxiliary spectacle frame and projecting toward the wearer across said primary spectacle frame when the eyeglass device is worn; and
  - a second pair of magnetic members, each affixed to said pair of arms, said second pair of magnetic members each having a second surface, said auxiliary spectacle frame capable of being supported by said primary spectacle frame by mounting said second pair of magnetic members to said first pair of magnetic members, said first and second surfaces being oppositely directed so that said surfaces are juxtaposed.
33. An eyeglass device according to claim 32 wherein said faces are horizontal.
34. An eyeglass device according to claim 32 or 33 wherein said faces are maintained in spaced relationship to provide a gap therebetween.
35. An eyeglass device according to any one of claims 32 to 34 wherein said first magnetic members are magnets.

---

BEST AVAILABLE COPY

---

36. An eyeglass device according to any one of claims 32 to 34 wherein said second magnetic members are magnets.

37. An eyeglass device according to anyone of claims 32 to 36 wherein an end portion of each of said arms extends downwardly to hook on said primary frame.

38. An eyeglass device according to anyone of claims 32 to 37 wherein said supports are projections.

39. An eyeglass device comprising:

a primary spectacle frame having two side portions each with an extensions extending therefrom with a top side and a rear side with a first magnetic member secured thereto by a support, and

an auxiliary spectacle frame including two arms for extending over a corresponding top side of said extension, said arms having downwardly extended terminal portions for hooking said auxiliary spectacle frame to said primary spectacle frame, and supporting said second magnetic members for cooperation with said first magnetic members and said arms and said first and second magnetic members supporting said auxiliary spectacle frame on said primary spectacle frame, wherein at least one of said first magnetic members and said second magnetic members are magnets.

40. An eyeglass device according to claim 26 wherein said magnetic members project from said supports to space said horizontally disposed face from said support.

BEST AVAILABLE COPY

TOTAL P. 16

2180714

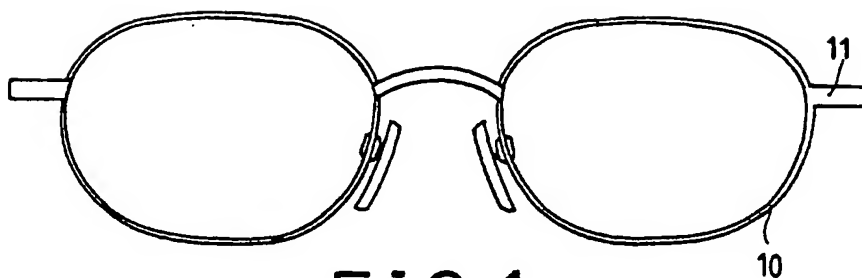


FIG. 1

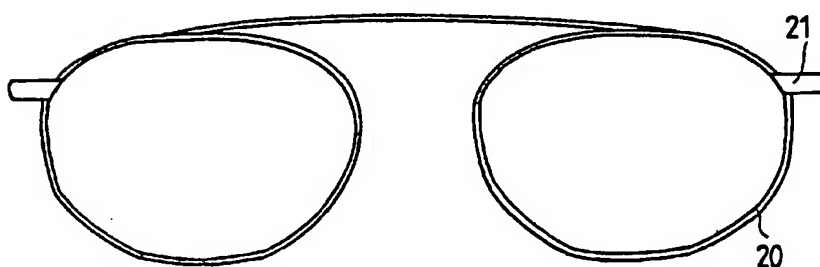


FIG. 2

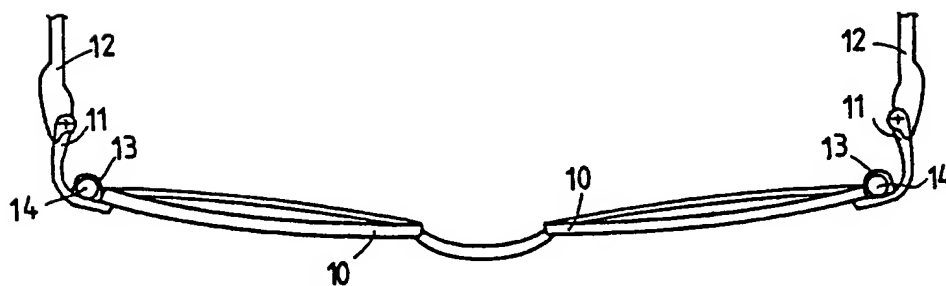


FIG. 3

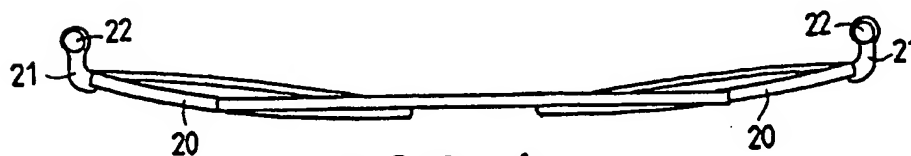


FIG. 4

BEST AVAILABLE COPY

2180714

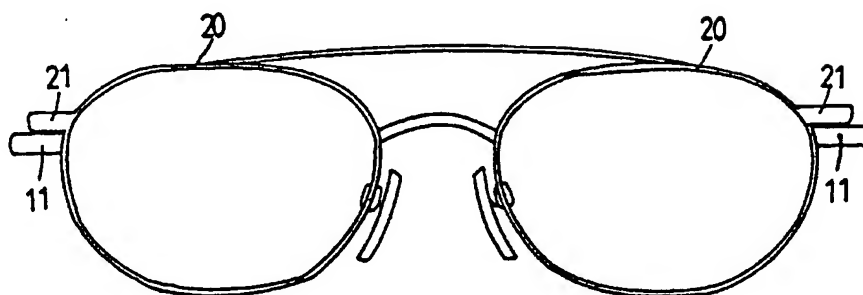


FIG. 5

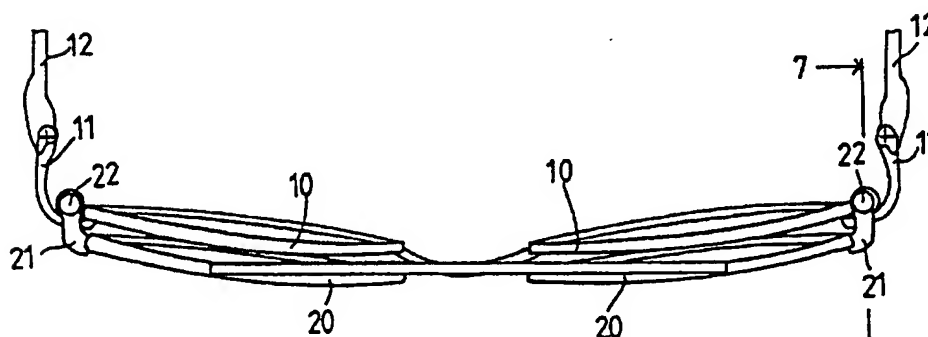


FIG. 6

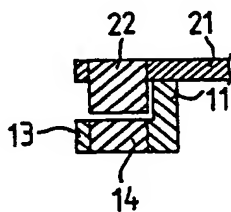


FIG. 7

BEST AVAILABLE COPY